TORPEDO FIRE™

RULE BOOK

STRATEGIC SIMULATIONS INC.

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If you are using DOS 3.3, you must use a 13-sector scratch disk when saving data files. This disk must be initialized prior to use.

1.0 INTRODUCTION

TORPEDO FIRE is a tactical level game featuring combat between submarines and escorts surrounding the convoys of WWII. Battle stations are sounding! As the commander of an American sub you have spent days in the Pacific before finally spotting your first Japanese convoy, and now you're in position to blow it apart. Meanwhile, as commander of a Japanese destroyer you realize that you're in waters where American subs are known to prowl. Can you protect your convoy from this menace?

1.1 Description of Action.

All action is considered to be continuous except for the once-a-minute interruption for the two sides to enter their orders. This can lead to events such as firing a depth charge in one turn and having it explode during a later turn when it has reached its depth setting.

1.2 Talking to the Computer.

When entering a command to the computer, complete your command by pressing the "return" key. To correct a mistake use the "back arrow" key to go backwards, then type over the mistake. Most menus allow you to type a "Q" to quit the current sequence.

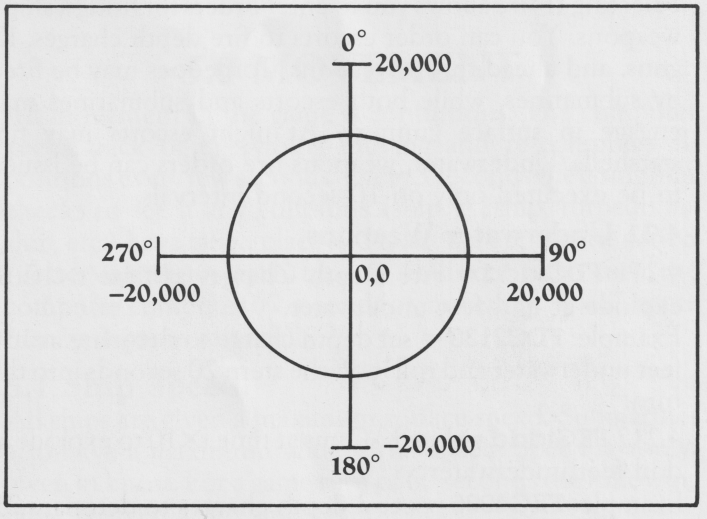
1.3 Saving a Game.

Upon the completion of the Search phase the computer will allow the player(s) to save the game in progress. If you choose to save the game you will need a scratch disc to store the data. The scratch disc must be initialized for SSI use by following the instructions included in the program. Once the game is saved, you will be able to restart it from the point at which you left off.

1.4 Mapboard Coordinates.

The map is the middle of a body of water. The center of the convoy starts off at X = 0, Y = 0. You may choose co-ordinates from −20,000 to +20,000 yards in both the X and Y directions. (X runs left/right and Y runs top/bottom on your monitor). Directions within the battle area are given in standard 360 degree bearings with 0 degrees representing north (see figure 1).

FIGURE 1



1.5 Starting a Game (DOS 3.2 or DOS 3.3).

To begin a game, boot your game disc and the game will begin automatically. If you are using an Apple II with PASCAL, you must use your BASICS disc. If you are using an Apple III, you must first go into Apple II Emulation Mode.

2.0 GENERAL DESCRIPTION

2.1 Parts Inventory.

A) Game Box
B) Rule Book
C) 5¼" Game Disc
D) Two Mapboard Charts
E) Two Ship Data Cards
F) One Shipyard Card
G) One 180 degree protractor

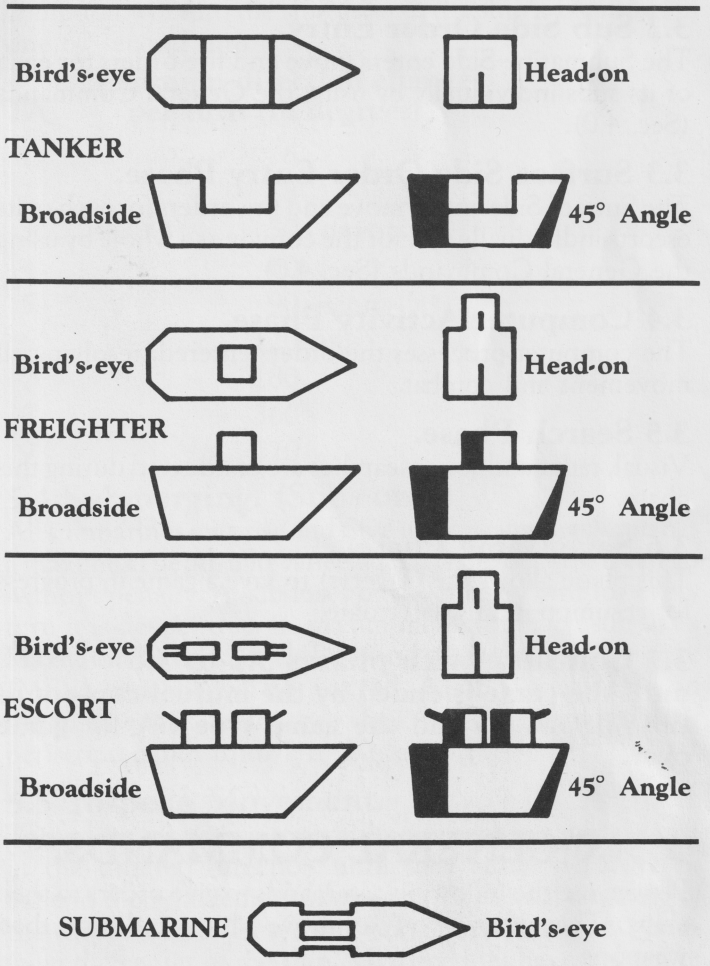
2.2 Passwords.

At the start of a non-solitaire game both sides will be required to enter a two (2) character password. It is important that both sides keep their passwords secret. This will insure that the computer will give secret information only to the proper side.

2.3 Ship Terms.

Port = left side
Starboard = right side
Bow = front
Stern = rear

FIGURE 2: The ships in different perspective views.



2.4 Game Scale.
Each turn represents about 60 seconds of real-time with the X,Y coordinate system based in yards (i.e., the distance between point (0,0) and point (0,1000) is 1000 yards).

2.5 The Ships.
Figure 2 displays the ships as they appear in the game.

3.0 SEQUENCE OF PLAY
TORPEDO FIRE is designed to be a two-sided game. The Surface Side commands the convoy of tankers and freighters and the escort ships. The Submarine Side commands the submarine(s). The Sub Side may be commanded by the computer or a human. Both sides enter orders for their ships, the computer then processes the orders, with this sequence being repeated until the game is over.

3.1 Scenario Selection Phase.
Players select an option from the menu given when the game is initially run. The players may use the Shipyards program to select (or build) their ships and then place them on the map. When this is completed the scenario may be saved.

3.11 Initial Search Phase. Ship searches are automatically conducted before the beginning of the first game turn.

3.2 Sub Side Order Entry.
The Submarine Side enters move and fire orders for each of its subs individually by using the General Commands (Sec. 4.0).

3.3 Surface Side Order Entry Phase.
The Surface Side enters move and fire orders for each of its escorts individually and for the convoy as a whole by using the General Commands (Sec. 4.0).

3.4 Computer Activity Phase.
The computer processes the orders entered, resolving all movement and combat.

3.5 Search Phase.
Visual, radar and sonar searches are conducted during this phase.

3.6 Save Game Phase.
This phase allows the player(s) to save a game in progress for resumption at a later date.

3.7 Continue with phases 3.2 to 3.6
until the game is ended by the mutual consent of the players. To end the game type GA for game over.

4.0 GENERAL COMMANDS.
Players use the following commands to give orders to their ships. They allow you to move ships and fire their weapons.

4.1 Movement Orders.
Selecting (M)ovement allows you to enter movement orders for your ships. You can order escorts to change both speed and direction. Subs may also change depth. Convoys may only be ordered to change direction.
Example: Supposing your escort is cruising along at 10 knots, heading 90 degrees when a sub on the surface is spotted several thousand yards off the starboard side. To order the escort to speed up and turn towards the sub you could enter the following orders:
MSS15 (Set speed to 15 knots.)
MC180 (Set course to 180 degrees)

4.11 Convoy Orders. Convoys (all freighters and tankers) will hold a steady course until a Set Course command is given (Sec. 4.132). Once a change of course has been entered the convoy must wait 5 turns before another course change may be ordered. If you issue an MC030 order to the convoy on turn two you may not enter another course change until turn seven. Note: The ID of the convoy is "C".

4.12 Speed Changes.
Format = **MSSkk**
M= Movement order
SS = Set Speed
kk = New speed in knots (In one turn a ship may speed up or slow down a number of knots equal to one third of its maximum speed.)
Example: **MSS10** = Set ship speed to 10 knots.

4.13 Direction Changes.

4.131 **MDCtt** = Continue straight for tt seconds (10 to 60). A ship will always assume that it should continue on its present course unless ordered otherwise.
Example: **MDC22** = continue on present course for 22 seconds.

4.132. **MCddd** = Set course to ddd degrees.
Example: **MC090** = set course for 90 degrees.

4.14 Depth Changes (Subs only).
MUfff = Move Underwater to fff feet.
Example: **MU022** = move underwater to 22 feet deep.

4.2 Fire Orders.
Selecting (F)ire allows you to enter orders for firing a ship's weapons. You can order escorts to fire depth charges, K-guns, and ahead throw weapons. Torpedoes may be fired by submarines, while both escorts and submarines may engage in surface gunnery. At night escorts may fire starshells. Underwater, weapons fire orders can be issued to be executed only on 10 second intervals.

4.21 Underwater Weapons.

4.211 **FDCtddd** = Fire Depth Charges at time t×10 to explode at ddd feet underwater.
Example: **FDC2130** = set depth charge to detonate at 130 feet underwater and roll it off the stern 20 seconds into the turn.

4.212 **FKGtddd** = Fire K-Guns at time t×10 to explode at ddd feet underwater.
Example: **FKG4025** = set 2 depth charges to detonate 25

feet underwater and fire one from each side of the ship 40 seconds into the turn.

4.213 **FATtlll** = Fire Ahead Throw weapon at time t×10, lll+50 yards ahead of the ship (lll must be between 100 and 200).
Example: **FAT3150** = fire ahead throw weapon 200 yards in front of the ship 30 seconds into the turn.

Example: Supposing your escort (equipped with K-guns) is close enough to attack a nearby sub. After plotting your move you decide that 30 seconds into the turn you will commence your attack. You guess that the sub is at 70 feet. You decide to lay down 2 depth charge patterns and fire your K-gun. To do this you would enter the following orders:
FDC3050
FDC3100
FDC3150 — first pattern complete
FDC4050
FDC4100
FDC4150 — second pattern complete
FKG3070 — fire K-gun at 30 seconds

4.22 Torpedoes.
FT(B/S)dddtt = Fire Topedo from (Bow/Stern) tubes on course ddd degrees at time tt.
Example: **FTB33012** = fire a torpedo from a bow tube 12 seconds into the turn. Set its compass to move at 330 degrees.Torpedoes may be fired from a depth of 0–100 feet. Torpedoes may be fired up to ±120 degrees of current bow/stern heading. If a torpedo fire order comes up when the sub is too deep or the angle setting is > 120 degrees from current heading, then the order is ignored.

4.23 Surface Combat.

4.231 **FSGdddllll** = Fire Surface Guns ddd degrees at range llll yards.
Maximum range of surface guns is 9,999 yards. A ship may fire its guns only once per turn, and they are fired at the beginning of the execution phase (although they are ordered to fire anytime during the order entry phase).

4.232 **FSSdddllll** = Fire Star Shell ddd degrees at range llll yards. Maximum range is 9,999 yards. A ship may only fire two star shells per turn.

5.0 MOVEMENT

All movement in the game is continuous. The computer keeps track of everything moving and re-computes all positions every few seconds. Every 3 seconds the computer checks to see if any collisions (ship vs. ship, torpedo vs. ship, etc.) have taken place and takes the appropiate action (i.e., combat) for each type of collision. Each turn the computer computes 60 seconds of movement (i.e., 1 game turn = 1 game minute).

5.1 Ship Speed.

All ships are given a maximum surface speed. Submarines also have a maximum underwater speed. Speed is always given in knots. For a game turn of 60 seconds the following table is given as an aid.

Knots	Yards Traveled in 60 Seconds
60	2000
30	1000
25	833
15	500
10	333
5	167

or at 1 knot a ship moves .5555 yards/second.

5.11 Changing Speed. All ships (except convoy ships) may increase or decrease their speed by up to one-third (⅓) of their maximum speed in one turn. You may enter only one Speed Change order (Sec. 4.12) per ship per turn. A Set Speed order is executed when it is encountered in the string of movement orders, with the change in speed occurring instantaneously. No ship can either exceed its maximum speed or move backwards.

5.12 A ship with fewer than 5 Damage Points (DP's) remaining is considered dead in the water and may not move.

5.2 Fuel.

For game purposes all ships are assumed to have all the fuel (or batteries) they need.

5.3 Maneuver.

Each ship is rated for its ability to turn (TA) on a scale of 1 to 9. The smaller the TA the longer it takes the ship to turn. If a ship is ordered to a new course (Sec. 4.13) the computer will turn the ship as far as the ship's TA allows in one 60 second turn.

TA	Maximum direction change per turn (in degrees)	
1	6	
2	18	
3	30	convoys
4	60	
5	90	escorts
6	120	subs
7	180	
8	360	
9	720	

5.4 Submerging. (Subs only)

All submarines may rise and dive underwater. Each sub has a maximum depth allowance which is the deepest it can go without penalty. A sub loses one Damage Point for every turn it is deeper than its maximum depth. Each sub has a Maximum Dive Rate (MDR) and a Maximum Rise Rate (MRR) which it will not exceed. A sub is considered on the surface if its depth is zero feet. It is considered to be at periscope depth from 1 to 30 feet.

5.5 Torpedo Movement.

Torpedoes move in a straight line (after their initial turn) in the ordered direction until they either detonate or expend their movement allowance. The initial targeting of the torpedo takes 10 seconds and is completed 150 yards from the center of the ship. All torpedoes have a speed of

30 knots and are active for 8 turns after being fired. Torpedoes appear as a small line on the surface player's map, and are listed in the sub player's status report.

5.6 Convoy Movement.

All ships in the convoy (Tankers and Freighters) move in unison. Convoys may change course once every five (5) minutes. A slow convoy moves at 8 knots. A fast convoy moves at 12 knots.

5.7 Collisions.

If the center of any ship on the surface is within 150 yards of the center of any other ship on the surface then BOTH ships are sunk. Submerged subs collide if their centers are within 150 yards and their depths are within 50 feet of each other. A sub is submerged if it is not on the surface. Submerged subs never collide with ships on the surface. Ships in the convoy never collide with each other. Convoy ships should be initially placed 1000 yards apart in both the X and Y directions in a box-like formation.

5.8 Executing Ship Movement (Surface side only).

If in response to the menu

(M)OVE (F)IRE (E)XECUTE (Q)UIT

you enter an "E" the escort you have currently selected will execute the orders you've given it. Its new position will be shown either every 10 seconds or every 10 degrees of a turn. Any fire orders will be executed and an asterisk (*) placed where a depth charge landed and a square placed where a surface gun or star shell landed (see figure 3). This execution command is only for the player's information, for the actions do not actually occur until the execution phase. Also orders can still be changed after an Execute command has been given.

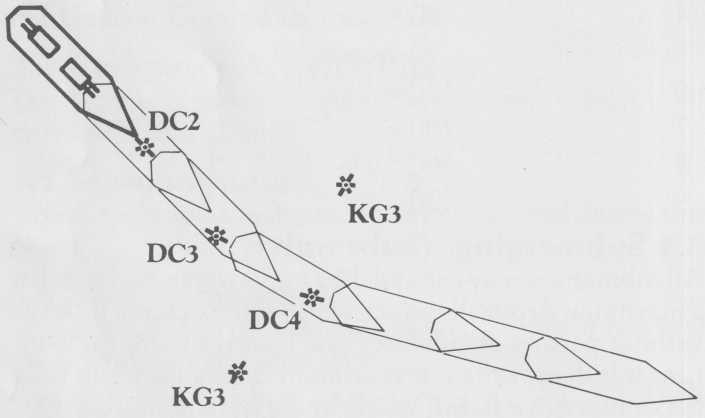


FIGURE 3
Ship moving 135° at 20 knots with typical execution of orders given:
Movement orders: MDC20 MC105 MDC20
Fire orders attacking sub estimate at depth of 200 feet: FDC2200 FKG3200 FDC3200 FDC4200

6.0 COMBAT.

Combat is initiated by a "Fire" command and is resolved (if possible) during the Computer Activity Phase.

6.1 Depth Charges.

Depth charges sink at a rate of 10 feet per second. When a depth charge reaches its pre-set depth then it explodes. It will damage a sub if it is within 50 yards in the X,Y direction and within 50 feet in depth. It will damage a surface ship by its backwash if it is within 50 yards of the ship in the X,Y direction. FDCtddd orders cause a single depth charge to be dropped 60 yards to the stern of the center of the ship. FKGtddd orders cause two depth charges to be fired. One lands 100 yards to the port side and the other lands 100 yards to the starboard side. Surface ships will be damaged by the backwash of the explosion if the ship moves within 50 yards of the spot where the depth charge exploded. Note: A depth charge may be dropped in one turn and explode in the next turn. Each escort may drop 0–6 DC's per turn (depending on the class of the escort). An escort may fire 0–2 K-guns per turn (also depending on the class of the escort). The computer allows for up to 19 underwater charges (Depth Charges, K-guns, and Ahead Throw weapons) to be active in the game at one time. The computer ignores additional fire orders if 19 of the above mentioned weapons are already active.

6.2 Ahead Throw Weapons.

Ahead Throw charges detonate if a sub's X,Y is within 50 yards. If the charge detonates then it will damage the sub. Surface ships will be damaged if they move within 50 yards of the charge during the turn it is fired. FATtlll orders cause a single depth charge to be placed lll+50 yards directly ahead of the ship's current X,Y center. An escort may fire 0 or 1 charge per turn (depending on class).

6.3 Torpedoes.

Torpedoes may only be fired from loaded tubes. Torpedoes check for detonation if their X,Y is within 150 yards of the center of a ship on the surface. If the torpedo is ruled to have hit the ship, it will cause damage. Torpedoes may be launched from subs up to 100 feet deep. The computer allows for up to 19 torpedoes to be active in the game at one time. The computer will ignore fire torpedo commands if there are already 19 torpedoes active.

6.31 Torpedo re-load. All submarines require nine turns to reload a torpedo tube after a torpedo has been fired from it.

6.4 Surface Gunnery.

Surface guns may be fired once each turn by any ship (except subs underwater) having them (Sec. 4.231). Only ships on the surface may be damaged by gunfire. Surface gunnery has a maximum range of 9,999 yards. Its Explosive Power (EP) depends on the size and number of guns the firing ship was typically outfitted with during the war. The maximum EP per ship = 99 EP. For game purposes surface gunfire is resolved at the beginning of the execution phase before any movement has occurred.

6.5 Armor Class (AC).

Armor class represents a ship's ability to withstand torpedo and depth charge attacks. It is a single digit number from 1 to 9. The higher the AC the greater the amount of damage likely to be sustained. The lower the AC, the better the ship's defensive ability to prevent damage from occurring.

6.6 Explosive Power (EP).

All weapons have an EP rating which is used to calculate the amount of damage inflicted as a result of combat.

Weapon	EP
Torpedo	30
Depth Charge (also used by K-guns and ahead throw weapons)	20

6.7 Damage Points (DP).

This factor represents a ship's ability to absorb damage. The higher it is, the more it must be attacked before it sinks. When a ship has fewer than 5 DP's left it is considered to be dead in the water and may not move. When a ship has zero (or fewer) DP's left it is considered sunk and is immediately removed from the game. When a submarine has fewer than half its original DP's left then it is forced to rise to the surface.

6.8 Combat Resolution.

6.81 Torpedo Combat Resolution. If a torpedo comes close (150 yds.) to a ship on the surface then there's a possibility that the torpedo will detonate. The closer the torpedo is to hitting the ship broadside (90 degrees) and the higher the armor class of the ship, the higher the likelihood of an actual torpedo hit and detonation. If a torpedo detonates, the damage is assessed with torpedoes causing between 15 and 45 damage points. Example: A torpedo (EP=30) approaches a tanker (AC=9 and DP=40) at an angle of 45 degrees off the heading of the ship (see figure 4). The torpedo will hit the tanker and detonate 49.5% of the time. With average luck the torpedo will cause 30 damage points, reducing the tanker's current DP to 10.

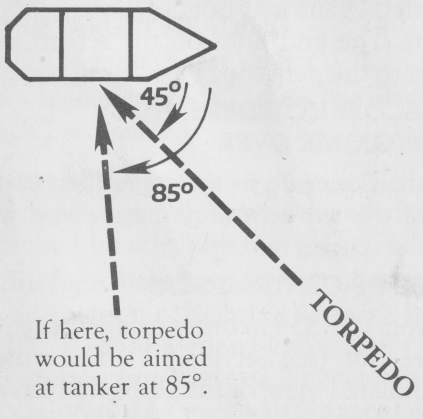


FIGURE 4: Torpedo aimed at tanker at 45.°

6.811 American torpedoes fired during 1942-1943 have 50% less chance of detonating.

6.82 Depth Charge Combat Resolution. If a depth charge is close (XY<50 yds., depth<50 ft.) to a sub when it detonates then it is likely to cause damage to the sub. Ahead throw weapons are assumed to be depth charges that automatically explode if they are within 50 yards of a sub (for purposes of damage the distance in depth from the explosion to the sub is considered to be 0 feet). The amount of damage done by a depth charge is a function of the distance of the sub from the point of explosion, and the AC of the sub being hit. Example: A depth charge (EP=20) explodes close enough (XY difference=25, depth difference=25) to a sub (AC=7 and DP=40) to do damage. With average luck the sub is likely to suffer a loss of 7 DP's, with good luck (from the attacker's point of view) 11 DP's, with bad luck 4 DP's.

6.83 Surface Gunnery Combat Resolution. If a volley of surface fire (Sec. 6.4) comes close enough (XY distance<150 yds) to the center of a ship then it may cause damage. The closer the shot is to the target the more DP's are likely to be lost. Also the higher the surface gunnery EP of the firing ship, the more damage done to the target. Example: A sub with a surface gunnery EP=25 fires at a tanker, with the shells landing 50 yards from the center of the tanker. With average luck the tanker will lose 5 DP's, with good luck 8 DP's, with bad luck 3 DP's. Example: An escort with EP=80 fires at a sub on the surface and comes within 100 yards. The damage done will range between 4 and 12.

7.0 SEARCH.

Searches are conducted at the end of every turn during the Search Phase. In order for a player to gain information about an enemy ship it must first be spotted by a friendly ship during the search phase.

7.1 Visual Search.

Once an enemy ship has been visually spotted it remains spotted as long as at least one friendly ship is within the appropriate maximum visual spotting range.

7.11 Surface Side Search — Day. A sub on the surface may be spotted up to 6,000 yards away. The closer you are the better your chances of successfully spotting the sub. Example: If the distance is 3,000 yards there is a 50% chance that an escort will visually spot a sub during the day. A sub at periscope depth may be spotted from up to 1,000 yards away. Example: If the distance is 750 yards there is a 25% chance that the sub will be visually spotted. A sub deeper than periscope depth may not be spotted by visual search.

7.12 Sub Side Search — Day. A surface ship up to 6,000 yards away may be spotted by a sub on the surface. A sub at periscope depth (1-30 feet deep) may sight a surface ship up to 3,000 yards away.

7.13 Sub Side Search — Night. A surface ship may be spotted by a sub on the surface at a distance of up to 3,000 yards. A sub at periscope depth may spot a surface ship up to 1,500 yards away.

7.14 Surface Side Search — Night. A sub on the

surface may be spotted up to 1,000 yards away. Also star shells may be used to spot a sub on the surface. An escort ship may fire up to two (2) Star Shells per turn. The shell illuminates an area (as if day) 600 yards in diameter. If a sub is within the illuminated area then it may be spotted as if it were day (Sec. 7.11). Since a Star Shell lasts only one turn the sub must be spotted every turn by firing new Star Shells. The maximum range you can fire a star shell is 9,999 yards.

7.2 Radar Search.

Ships equipped with radar automatically conduct a Radar Search during the Search Phase. Only escorts and subs may have radar.

Ships found by radar may be found and lost on every turn. Each turn there is a 10% chance of a false radar contact.

7.21 Surface Side Radar. The effectiveness of regular radar is a function of distance and luck. A submarine on the surface may be spotted by radar up to 4,000 yards away (the closer the better).

7.22 Submarine Side Radar. Same as Surface Side Radar (Sec. 7.21) plus the searching sub may be no deeper than periscope depth.

7.23 Japanese radar has a maximum range of 2,000 yards.

7.3 Sonar Search.

During WWII two types of sonar were deployed: active and passive. Active sonar gear sent out a series of "ping"s and a trained operator could tell both the bearing and range of an enemy sub based on what he heard. Passive sonar gear was like a microphone that picked up underwater sounds. A trained operator could tell what direction the sound was coming from. Although a few ships were equipped with both types of sonar, for game purposes only escorts will be equipped with active sonar and only subs will be equipped with passive sonar. Ships equipped with sonar automatically conduct a Sonar Search during the Search Phase. Only escorts and subs may have sonar. Ships may be found and lost by sonar on every turn. Each turn there is a 10% chance of a false sonar contact.

7.31 Surface Side (Active Sonar.) The effectiveness of active sonar is a function of escort speed, distance and luck. Active sonar is not usable at speeds of over 14 knots and is most effective at speeds of under 6 knots. Active sonar has a maximum range of 2,000 yards (the closer the better).

Example:

Escort speed	Escort luck	Range within which a sub would be spotted
2	avg	2,000
5	worst	1,000
10	avg	1,000
12	best	900

7.311 Disturbed Water is caused by the detonation of an underwater weapon. Its effect lasts for the turn of the explosion. No sub may be spotted by sonar within 250 yards of the location of the explosion.

7.32 Submarine Side (Passive Sonar). The effectiveness of passive sonar is a function of sub speed, enemy ship speed, distance and luck. Passive sonar is not usable at speeds of over 8 knots and has a greater effective range the slower the sub is going. Maximum effective range is achieved at sub speeds of 0 to 3 knots. Passive sonar's effective range is increased the faster the enemy ship is going. Passive sonar has a maximum range of 3,000 yards.

Example:

Sub speed	Enemy speed	Sub luck	Effective range
2	5	avg	1,750
5	1	avg	200
5	5	best	1,500
8	30	worst	750

8.0 USING THE PLAYER AIDS.

Ship ID's are En (n=1–9) for escorts and Sn (n=1–9) for subs. The Convoy ID is "C". You may not "get at" the individual ships in the convoy. ID's are assigned in the Shipyard program. Don't forget, entering a "Q" is almost always legal.

8.1 The Radar Screen (Sub Side only).

This is a simulation of the view of a WWII radar screen showing the ships spotted either visually or by radar (including false radar spots). The scan is centered on one of the submarines. To get to this display type "R" in response to

(R)ADAR (P)ERISCOPE (O)RDERS (TDC)
(S)TATUS (E)ND (GA)ME OVER

If there is more than one sub in the game you must enter the "ID" of the sub you wish to have at the center of the scan. The screen displayed is the same as the "A" scale on the Surface Side Map.

8.2 The Periscope (Sub Side only).

This is a simulation of the view a WWII submarine commander had through his periscope showing all enemy ships visually spotted. A sub may not use its periscope if it is deeper than 30 ft. The grid lines on the screen are 500 yards apart. To get to the periscope type "P" in response to

(R)ADAR (P)ERISCOPE (O)RDERS (TDC)
(S)TATUS (E)ND (GA)ME OVER

If there is more than one sub in the game then you must enter the "ID" of the sub whose periscope you wish to view through. In response to

. . ENTER DEGREE OF CENTRAL SCAN

enter a number from 0 to 359 in order to aim the periscope in a particular direction (see Section 1.4). The screen will now display a simulated view of the ships that have been spotted visually, with the grid lines being 500 yards apart.

8.3 The Map (Surface Side only).

This display provides a top down view of a selected portion of the map showing all spotted ships. It provides a number of scales which allow the player to zoom in on a

particular area. To get to this display enter "M" in response to

(M)AP (S)TATUS (O)RDERS (E)ND (GA)ME OVER

You then choose the X,Y coordinates, scale and either the Original (start of turn) or New ship positions. The six (6) scales provided are:

A grid lines are 2000 yards apart
B grid lines are 1000 yards apart
C grid lines are 500 yards apart
D grid lines are 200 yards apart
E grid lines are 100 yards apart
F Same as D except ships are oversize for ease of identification.

X marks the X,Y coordinates you have chosen as the center of the map.

Note: Sometimes when you are Executing a ship's orders on the F scale map, lines will appear on the screen as the ship moves off the screen. This is a function of the graphics package and can't be prevented in all cases.

8.4 TDC (Target Data Computer) (Sub Side only).

WWII sub commanders had several aids they usedwhen calculating torpedo attacks. But firing a torpedo successfully was not a simple process. To simulate some of the aids an actual commander had, you have an SSI version of a TDC. The TDC will give the direction to fire a torpedo in order to hit a particular target, as well as the time it will take for the torpedo to hit the target (assuming the target does not change its speed or direction). If you select the TDC you will be given a series of prompts requesting the current positions of the sub and target plus the target's speed and heading. The prompts are:

.. ENTER POSITION WHEN TORPEDO FIRED
.. X = ? (Enter X co-ordinate)
.. Y = ? (Enter Y co-ordinate)
.. ENTER POSITION OF TARGET
.. X = ? (Enter X co-ordinate)
.. Y = ? (Enter Y co-ordinate)
.. ENTER TARGET SPEED
.. SPEED = ? (Enter speed in knots)
.. ENTER TARGET HEADING
.. DEGREES = ? (Enter degrees)

(Note – If you enter a "Q" then you may prematurely Quit the TDC sequence.)

8.5 Status Displays.

These displays give the players needed information. They are reached by selecting the (S)TATUS option.

8.51 Surface Side Status. This display shows an escort's status and gives the "Sighting Report". Items included are: Ship ID, X, Y, direction, knots, DP's left, current ship orders and the turn number. The Sighting Report gives the X,Y location of subs spotted by sonar as well as information as to whether the sub is on the surface, underwater, or sighted at periscope depth. Also if the game being played is a solitaire game then VP's are displayed upon request.

8.52 Sub Side Status. This display gives the sub's status, the torpedo status report, and the Sonar Report. Status items are: ID, X, Y, knots, direction, DP's left, depth, VP's scored by both sides, current ship orders and the turn number. The torpedo status is given for 9 bow and 9 stern tubes with L = loaded, Q = not available and # = the number of turns before the tube is reloaded. The Sonar Report gives the submarine commander an idea of the direction from which enemy ships are coming. An option to receive a listing of the location and direction of all torpedoes currently in the water is also given to the submarine commander during his status check.

9.0 VICTORY CONDITIONS.

Since this game offers total free form in the setting up of scenarios, it is difficult to determine a specific set of victory conditions. Generally speaking the side that scores the most Victory Points is the winner, but players should feel free to create their own set(s) of Victory Conditions.

9.1

The Computer accounts for VP's scored for:
1. Surface ships and submarines sunk
2. Surface ships and submarines damaged
3. Torpedoes fired

One point is awarded to the escort player for each torpedo fired by the submarine player. Each side receives the victory point value of an enemy ship that is sunk. For the value of each ship, refer to the ship data cards. When the game is ended each side receives victory points for damaged enemy ships, with the victory points being determined by the following formula:

Ship Victory Points × ½ × (DP's lost/original DP's)

Example: If a German VIIB submarine has lost 5 DP's during the game, the escort player would be awarded 25 × ½ × (5/20) = 3.125 victory points.

9.2

VP's are displayed for the sub side in non-solitaire scenarios and for the surface side (upon request, although under normal conditions the player should not ask for the VP total since it discloses whether a submarine has been sunk) in solitaire scenarios.

9.3

WWII literature is full of possible scenarios. Players should feel free to assign a tanker 50 VP's (as if it were an aircraft carrier) and require the escorts to follow the tanker until the first torpedo hits, etc. . . . The ways in which Victory can be achieved are as limitless as your imagination.

10.0 SOLITAIRE.

At the beginning of each game you may choose to play against the computer. If you select this option, the sub side will be played by the computer. The computer will (somewhat randomly) place his subs on the map. The computer will then select an overall strategy to follow while making tactical decisions warranted by the current situation.

11.0 THE SSI SHIPYARDS.

The shipyards program allows you to create your own fleets. By following the directions on the data card you can create any historical or non-historical ship you wish.

12.0 DESIGNER'S NOTES.

For me a game starts when I can visualize what it looks like when played. The first aspect of TORPEDO FIRE that came together was the graphics. I knew that I wanted some kind of a 3-D view for the sub side but didn't want to write the assembly language code to create it. Luckily, along came Bill Budge's 3-D graphics tool and I was in business! Now I could have the 3-D views I wanted.

The business I found myself in was looking up Trigonometry formulas in old textbooks. There is more mathematics in this game than in all the other programs I've written in over a decade of programming.

Then I put together all the major elements of the game. It was great fun to play, but not too historically accurate (I had escorts flying along at 60 knots, slowing to 5 knots, turning, speeding up again — all the while spewing lots of depth charges all over the place.)

So I did my in-depth historical research. The overwhelming impression is of the bravery of the men that were involved in these battles. One of the worst psychological experiences imaginable has to be sitting in a hot, stuffy sub for hours as depth charges rain about. War sure is Hell! Would that nations could devise a better game to settle their differences!

RULES, RULES and more RULES! ! This is always the hardest part of any game design for me. Hopefully I've been able to include enough to give a feeling for the limitations of the period but not so much as to bog down the playability. The Shipyards should give players a great deal of flexibility in creating all kinds of fun scenarios.

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13.0 CREDITS.

Game Program — John Lyon
Rules — John Lyon and Joel Billings
Playtesting — Chuck Harvey, Murray Summers, Charlie Merrow, Jim Yarbrough
Art and Graphic Design — Louis Hsu Saekow
Typesetting — Abracadabra Type
Printing — A&a Lithographers & Printers
Customized Disc Operating System — Roland Gustafsson
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You never thought your computer could be this exciting!